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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,882	02/01/2007	David E. Vokey	85533-102	8847

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EXAMINER

VALONE, THOMAS F

ART UNIT	PAPER NUMBER
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2831

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/534,882	Applicant(s) VOKEY ET AL.	
	Examiner THOMAS F. VALONE	Art Unit 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,12,13,15,16 and 18-26 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 4-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12,13,15,16 and 18-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/12/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Invention II, claims 12, 13, 15, 16, 18-26 in the reply filed on 3/23/09 is acknowledged.

Drawings

2. The drawings are objected to because the numerical details in Figures 3-5 in the priority document PCT60/488,090 such as the exponents and superscripts are illegible. Applicant is invited to submit new formal drawings in the case. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 12, 21 and by dependence claims 13, 15, 16, 18-20, 22-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The “pair of conductive probes” in claims 12 and 21 can be broadly interpreted as the two vertical pin portions of a single steel construction staple, such that each one of the conductive probes penetrates the first and second conductors, however effectively shorting them out by following such instructions explicitly. It is not clear whether each claimed “probes of each pair” are a single conductor or intended to have two conductive probes as well.
- b. It is not clear how the claimed plurality of pairs of conductive probes can penetrate into the absorbent material by themselves as claimed.
- c. It is not understood how normal conductive probes as claimed in the independent claims, such as ferrous metal or steel, can perform in an electrically conductive manner as they rust due to exposure to moisture. To one of ordinary skill, only stainless steel, aluminum or precious metals would seem to be a requirement to perform the function as claimed for any length of time in a construction environment.

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5. Claims 13, 22, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 13 and 22 recite a “water pervious” dielectric material extending over the conductors which seems to create an atmospheric humidity moisture sensor since any water pervious layer will not protect the conductors from atmospheric moisture conditions, as is well known to one of ordinary skill. However, probes are also claimed to be inserted penetrating through the conductors in the independent claims 12 and 21 which contradict this apparent application since the claimed probes seem to direct the current measurement across both the water pervious dielectric material and the claimed absorbent material reached by the probes, creating a parallel resistive circuit so that it is not clear what is being measured.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 12, 13, 15, 16, 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart (GB 2235535) in view of Gott (6,175,310) both of record and Contractors Depot Stainless Staples.

Regarding claims 12, 18, 20, 21, 25, Stewart from the same field of endeavor teaches a method of detecting moisture in an absorbent material by providing a tape (3,

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Fig. 6) formed by a substrate and a first and second spaced apart elongate parallel conductors mounted on top of the substrate (1, Fig. 1) and a layer of mounting adhesive on a bottom surface of the substrate (2, p. 3 and Fig. 1). Stewart further teaches attaching the tape using the adhesive to be "fixed to the structure" (p. 3) so as to mount the two conductors on or adjacent to the surface of the material (Fig. 2-5). Stewart also teaches applying a voltage (power source 6, p. 3 and Fig. 5, 8) across the two conductors and monitoring currents so as to detect changes in resistance between the conductors caused by moisture in the material (resistance, p. 3) as in claims 12, 21.

Stewart does not teach penetrating the first and second conductors of the tape with a respective one of a pair of conductive probes such that each of the conductive probes engages into the absorbent material and is electrically connected to the respective conductor. Stewart does not explicitly teach a substrate of dielectric, hydrophobic material.

Contractors Depot from an analogous field of endeavor teaches rigid elongate conductive probes that come in pairs (e.g. 316 Senco Stainless Steel Collated Staples 16 gauge Contractors Depot "P" Series, Contractors Depot, p. 3, archived 6/9/2003 webpage) which has a one inch crown attached to a pair of conductive probes extending downward from the crown. It is well known to one of ordinary skill in the art to force the plurality of Contractors Depot conductive probes, such as the Contractors Depot corrosion resistant stainless steel nails and brads (p. 1, archived webpage 12/3/2000), longitudinally along respective spaced locations as in claim 20 along the length of any material being secured including timber frame or dry wall as they

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penetrate into almost any material as in claims 12, 18, 21, 25 with a necessary and sufficient additional hammer or air gun.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have forced the Contractors Depot corrosion resistant conductive probes into the Stewart moisture detecting tape for the benefit of securely engaging the tape as well as each of the first and second conductors to the absorbent material, as steel construction staples are well known to accomplish to one of ordinary skill, while possibly electrically connecting to the respective conductor if they happen to be hammered through the tape in the right spot.

The teachings of Stewart and Contractors Depot (S-C) are reviewed above.

S-C does not explicitly teach dielectric, hydrophobic material for a substrate.

Gott from the same field of endeavor teaches a dielectric, hydrophobic material for a substrate of the leak detection system tape (substrate 21, col. 3, line 48-55) that can be plastic or rubber.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the Gott hydrophobic dielectric material for a substrate in the S-C method for detecting moisture for the benefit of being flexible and no thicker than 20 mils so as not to impede the flow of small droplets of water, as suggested by Gott (col. 3, line 50-55).

8. Regarding claims 13, 22, Stewart teaches a dielectric, non-hydroscopic material (non-permeable insulation 8, p. 3 and Fig. 6) secured to the top surface of the substrate and extending over the conductors.

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9. Regarding claims 19, 26, Stewart teaches the absorbent material is a moisture permeable element of a building construction (timber framed, p. 1 and Fig. 5).

10. Regarding claims 15, 23, Stewart does not indicate the width of the tape conductors or the content being metal.

Gott teaches that the width of the conductors is preferably between $\frac{1}{4}$ and 1 inch wide (col. 4, line 10-15), which converts to between 6.5 mm and 25 mm. Gott further teaches that the conductors are flat metal strips (electroplating, col. 3, line 66 and foil, col. 4, line 1) as in claims 15, 23.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the Gott recommended flat metal strip conductors of at least 6.5 mm in the Stewart method for detecting moisture for the benefit of ensuring that the detection tape is sufficiently sensitive to small water droplet moisture (col. 4, line 15-20).

11. Regarding claims 16, 24, Stewart does not indicate the gap spacing distance of the conductors.

Gott teaches the gap spacing between conductors should be between $\frac{1}{4}$ " and 1.5" which converts to between 6.5 mm and 38 mm, which encompasses the claimed 13 mm as in claims 16, 24.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the Gott recommended flat metal strip conductors spacing of at least 13 mm in the Stewart moisture detection tape for the benefit of

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facilitating easier connection to various leak detection devices having different terminal spacings, as suggested by Gott (col. 4, line 23-26).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kates, Raymond, Vokey '155, Vokey '259, Hawkins, Tom, Tokumitsu, and Hydro-Temp teach moisture detection devices and sensors.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS F. VALONE whose telephone number is (571)272-8896. The examiner can normally be reached on Tu-W-Th, 10:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas F Valone/

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Examiner, Art Unit 2831

Thomas Valone
Patent Examiner
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